

III-05.01 Aggregate Base

Generally an aggregate base course will be provided under the surface course. It becomes an integral part of the pavement system. This could consist of totally virgin aggregate or a mixture of virgin aggregate and recycled asphalt surfacing.

In some cases it may be desirable to stabilize the base with a cementitious or bituminous material. The type and thickness of base will be part of the Materials and Research Division recommendations.

III-05.02 Permeable Base

Permeable base is an open graded base that allows water to drain through it at a relatively high rate (approx. 1500 ft. per day).

Generally permeable base is only used under interstate and urban pavements. Nevertheless there may be other instances where it would be appropriate to use it. This base can be treated or untreated but in nearly all cases the recommendation is for treated. The materials used are asphalt or cement. The thickness of the base should be given in the Materials and Research Division recommendations. The aggregate and cementitious materials are specified in Section 304 of the Standard Specifications

The following should govern the use of this type base:

- Permeable base should be used on all of I-29.
- Permeable bases should be used on I-94. However, in some parts of the state where there is a combination of low rainfall and positive draining soils, permeable bases may not be justified. The Materials and Research division will identify these projects and provide the recommendations in their report.
- For roadways off the interstate system, a loading of 350 ESALS per day should be the beginning point where permeable base should be considered. The decision for it's use will be on a case-by case basis.
- Generally permeable base should be used if the loadings exceed 500 ESALS per day.

III- 05.03 Blended Base

The surface of some existing roadways may be so badly deteriorated that an overlay would not be appropriate, but yet it would not be a candidate for total reconstruction. Blended Base could be considered. This is a process where virgin aggregate is placed on the existing roadway, and by

the use of a large pulverizing traveling mixer the virgin aggregate, the existing surfacing and the existing aggregate base are mixed together, in place, to form a blended base.

The total depth of blending, the thickness and class of virgin aggregate, and whether the blending machine can run on the subgrade or must run on the surfacing, will be as recommended by Materials and Research.

This can also be accomplished by hauling the materials from the roadway and blending them off site and then haul the blended base back to the roadway to lay and compact.

III-05.04 Edge Drains

Edge drains are perforated pipe systems that allow water to enter and be carried to outlets where it is emptied into the highway ditch. They are placed in trenches that are parallel to the centerline of the roadway and adjacent to the outer edge of the driving lanes. This item should be covered in the Materials and Research recommendations.

Where there is guardrail, locate the drains so they don't conflict with the guardrail.

III-05.05 Prime Coat

Prime coat is a thin layer of liquid asphalt and is generally placed on a finished base to protect it from the elements and to provide a temporary surface until the final surfacing can be placed. The rate of application may vary, but is normally at 0.35 gals. per square yard.

If the primed base will be open to traffic, blotter sand should be provided at the rate of 12 lbs. Per square yard (generally).